

**Amendments to the Claims:**

The listing of claims will replace all prior versions and listings of claims in the application.

**Listing of Claims:**

Claims 1-97 (canceled)

Claim 98 (currently amended): A substrate cutting device ~~for producing substrate fibers that have a textured surface, a lengthwise grain, and a plurality of parallel striations along the grain,~~ comprising,

a cutter comprising a blade section, wherein the blade section includes at least one row of teeth and wherein each tooth includes a primary cutting angle and a secondary cutting angle;

a clamping mechanism for holding a substrate having a lengthwise grain;

a slide mechanism that is coupled to the cutter; wherein the clamping mechanism is disposed relative to the slide mechanism so that the slide mechanism slides substantially parallel to a lengthwise grain of a clamped substrate and the blade section contacts the substrate during operation of the cutting device;

a pneumatically operated first actuation unit that moves the slide mechanism during operation of the cutting device;

a pneumatically operated second actuation unit that positions the clamping mechanism;

at least one fiber channel; and

a controller, where the controller controls the first actuation unit and the second actuation unit.

Claim 99 (canceled)

Claim 100 (previously presented): The substrate cutting device of claim 98, further comprising a sensor for detecting the prescribed conditions during operation of the cutting device.

Claim 101 (previously presented): The substrate cutting device of claim 98, wherein the controller varies a speed at which the slide mechanism slides during operation of the cutting device.

Claim 102 (previously presented): The substrate cutting device of claim 98, wherein the controller varies a force at which the blade section contacts the bone tissue during operation of the cutting device.

Claims 103-105 (canceled)

Claim 106 (previously presented): The substrate cutting device of claim 98, wherein the second actuation unit applies a force of 150 lbs-250 lbs to the clamping mechanism during operation of the cutting device.

Claim 107 (previously presented): The substrate cutting device of claim 98, wherein the second actuation unit applies a force of 200 lbs to the clamping mechanism during operation of the cutting device.

Claims 108-111 (canceled)

Claim 112 (previously presented): A method of producing substrate fibers comprising placing a substrate into the substrate cutting device of claim 98 and cutting substrate fibers from

the substrate.

Claim 113 (previously presented): The method of claim 112, wherein the substrate is bone, bone tissue, or soft tissue.

Claim 114 (previously presented): The method of claim 113, wherein the substrate is plasticized.

Claim 115 (previously presented): The method of claim 113, wherein the substrate is freeze dried.

Claim 116 (previously presented): The method of claim 113, wherein the substrate is frozen.

Claim 117 (previously presented): The method of claim 113, wherein the method further comprises combining the substrate with glycerol prior to cutting.

Claim 118 (previously presented): The method of claim 113, wherein the bone is newly formed bone or implant bone.

Claim 119 (previously presented): The method of claim 113, wherein the substrate is derived from a mammalian source.

Claim 120 (previously presented): The method of claim 119, wherein the substrate is derived from a human.

Claim 121 (previously presented): The method of claim 120, wherein the substrate is bone tissue.

Claim 122 (previously presented): The method of claim 121, wherein the bone tissue is plasticized.

Claim 123 (previously presented): The method of claim 121, wherein the method further comprises combining the bone tissue with glycerol prior to cutting.

Claim 124 (currently amended): The substrate cutting device of claim ~~99~~ 98, wherein each tooth includes at least one predetermined cutting angle.

Claim 125 (canceled)

Claim 126 (currently amended): The substrate cutting device of claim ~~125~~ 98, wherein said primary cutting angle is between about 3° and about 6°.

Claim 127 (currently amended): The substrate cutting device of claim ~~125~~ 98, wherein said primary cutting angle is ~~approximately~~ about 4°.

Claim 128 (currently amended): The substrate cutting device of claim ~~125~~ 98, wherein said secondary cutting angle is between about 10° and about 18°.

Claim 129 (currently amended): The substrate cutting device of claim ~~125~~ 98, wherein said secondary cutting angle is between about 12° and about 16°.

Claim 130 (currently amended): The substrate cutting device of claim ~~125~~ 98, wherein

said secondary cutting angle is ~~approximately~~ about  $14^{\circ}$ .